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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,138	04/20/2005	Thomas Q. Hu	10326-79US KPM/en	6770
20988 7590 04/26/2007 OGILVY RENAULT LLP 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA			EXAMINER FELTON, MICHAEL J	
			ART UNIT 1731	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/532,138

Applicant(s)

HU ET AL

Examiner

Michael J. Felton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 3-5, 7-9, and 11-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, and 6 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on 3/07/2007 is acknowledged. The traversal is on the ground(s) that there is a common special technical feature between the inventions. This is not found persuasive because, although there are common technical features, the possible special technical feature is defined by the prior art.

The requirement is still deemed proper and is therefore made FINAL.

Claims 24-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3/07/2007.

Claims 3-5, 7-9, and 11-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Election of species was made **without** traverse in the reply filed on 3/07/2007.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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2. Claims 1-21, 24-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 does not define what X is in structure O. In particular, on page 3 of claim 1, the phrase "X is the same as defined above", however, X was never previously defined. Other references to X being defined earlier are used in other parts of this and other claims.
4. Claim 1 recites, "wherein s is 0 or 1", however it is not clear what the structure should be is s=0. With the absence of the CH₂ unit (because s=0) the structure laid out in the drawing O would change from what is drawn, with a five membered ring replacing the six membered ring. If this is the case, a new illustration is needed. If this is not the case the applicant needs to disclose what takes the place of the this unit in the 6 membered ring.
5. Claim 1 recites a structure O with three nitrogen atoms in the +1 state. This is not indicated in the structure and various alterations to the structure within claim 1 may cause a change of oxidation state of these nitrogen atoms. However it is unclear if a change in oxidation state is what is the desired effect or if the deselected group is replaced by a hydrogen to conserve the structure disclosed in the illustration. For example, if Y₂ is absent, the nitrogen it was attached to would go from a +1 oxidation state to neutral. If the nitrogen is to remain in the +1 state as it is assumed it is shown in the illustration, a hydrogen or other atom would need to be bound in place of Y₂.

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6. Claim 1 recites the limitation "these materials" in line 3. There is insufficient antecedent basis for this limitation in the claim. If "these materials" refers to "light stable and process-stable lignocellulosic materials" then the process would be to react already light stable materials with bleach, and yellowing inhibitors and light stabilizers as described in the claim.

7. Regarding claim 1, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

8. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

9. In the present instance, several claims recite, numerous times, a broad recitation labeled "preferably", and the claim also recites values that are "more preferably", "even

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more preferably", and "most preferably," which are the narrower statements of the range/limitation. For example, claim 1 recites that "n is an integer from 0 to 5002, more preferably 0 to 502, even more preferably 0 to 52, and most preferably 0 to 12".

10. The above 112 2nd paragraph indefinite issues are exemplary. The applicant should check and correct this application for these and other indefinite issues.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunkle et al. (US 6,416,627).

15. Regarding claims 1 and 2, Cunkle et al. disclose stabilizers to prevent the loss of brightness and enhance the resistance of yellowing in pulp or paper, especially pulp or paper containing lignin. The invention is disclosed to be added at various pointes in the paper-making process, especially at the wet end (aqueous solution) which also includes bleaching sequences. Although Cunkle et al. do not disclose the specific compound by name or specific structure, the molecule defined in the instant application would result from the random attachment of the groups disclosed in columns 3 and 4. In particular a compound meeting the claimed structure of the instant invention could contain the following groups disclosed by Cunkle et al.; a piperidine ring (col. 5, compound 1A), an ethylene amine (col. 5 line 1), and a bridging group (col. 7, compound 13).

It would have been obvious to one of ordinary skill in the art at the time of invention that the compound elected would have been produced by the process and chemical groups disclosed by Cunkle et al. Barring any unexpected results, the compound in question would have been expected to performed as well as many other similar molecules created by Cunkle et al.

16. Regarding claim 6, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the addition of a yellow inhibitor or light stabilizer with

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other paper processes, such as those used to form paper and the coating of papers with additives such as UV protectors that are commonly known in the art.

Allowable Subject Matter

17. Claim 10 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Felton whose telephone number is 571-272-4805. The examiner can normally be reached on Monday to Friday, 7:30 AM to 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJF


ERIC HUG
PRIMARY EXAMINER